REMARKS

Claim 2 has been amended to include the limitation that the nonaqueous electrolyte solution of the claimed nonaqueous electrolyte secondary battery contains 10 - 20 % by volume of ethylene carbonate. This limitation was recited in original claim 5 which was canceled in the response filed June 10, 2010.

Claims 1-3 and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by JP 2002-358963 (hereinafter: Yonekawa).

Yonekawa is insufficient to support a case of anticipation under 35 U.S.C. § 102 of claims 1-3 and 6.

Claims 1-3 and 6 require that the nonaqueous electrolyte solution of the nonaqueous electrolyte secondary battery of the invention contains 10 - 20 % by volume of ethylene carbonate as a solvent.

Yonekawa does not disclose that the nonaqueous electrolyte solution of the nonaqueous electrolyte secondary battery disclosed therein contains "10 - 20% by volume of ethylene carbonate". Yonekawa discloses only that ethylene carbonate may be used as nonaqueous electrolyte (paragraph [0044] of the machine translation). Only a 1:1 mixed liquid of ethylene carbonate and methylethyl carbonate ("1:1 kneading liquid of ethylene carbonate and methylethyl carbonate") is described in lines 17 - 18 of paragraph [0053] of the machine translation.

Yonekawa does not support a case of anticipation under 35 U.S.C. § 102 of claims 1-3 and 6 and withdrawal of the 35 U.S.C. § 102(b) rejection of these claims over Yonekawa is in order.

Claims 11 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yonekawa as applied to claims 1 and 2 above.

Claims 11 and 12 depend, respectively, on claims 1 and 2. Since Yonekawa is insufficient to support anticipation under 35 U.S.C. § 102 of claims 1 and 2, Yonekawa cannot support unpatentability of claims 11 and 12 under 35 U.S.C. § 103(a). Withdrawal of the 35 U.S.C. § 103(a) rejection of claims 11 and 12 over Yonekawa is also in order.

Claims 1-3, 6, 11 and 12 are rejected in the Action under 35 U.S.C. § 103(a) as being unpatentable over US 2004/0121234 A1 (hereinafter: "Le") in view of US 5,030,528 (hereinafter: "Shen").

This is the same rejection that was applied to claims 1-4, 6 and 10-12 in the Office Action dated March 10, 2010. In the response filed June 10, 2010, to the Action of March 10, 2010, applicants argued that Le does not disclose the amount of ethylene carbonate present in the electrolyte solution and although Shen discloses 10 - 20 % by volume of ethylene carbonate, the use of 10 - 20 % by volume of ethylene carbonate in the nonaqueous electrolyte solution of the nonaqueous electrolyte secondary

battery of the present invention as defined in the claims produces unexpected results. The unexpected results were stated to be demonstrated by the data of Table 2 of the present specification.

The data of Table 2 show that Batteries B1 and B2 containing 10 - 20 % by volume of ethylene carbonate exhibit materially improved capacity retention after 300 cycles as compared with battery B3 containing 30 % by volume of ethylene carbonate. However, in case of comparative batteries Y1 and Y2 in which the Zr content is 0 mol %, i.e., a zirconium-containing compound is not adhered onto particle surfaces of lithium cobalt oxide, battery Y2 containing 10 - 20 % by volume of ethylene carbonate does not exhibit improved capacity retention as compared with battery Y1 containing 30 % by volume of ethylene carbonate.

These data were argued to show that a nonaqueous electrolyte solution containing 10 - 20 % by volume of ethylene carbonate as disclosed in Shen does not necessarily provide a nonaqueous electrolyte secondary battery having improved characteristics. The unexpected results of the present invention can be obtained only by the combination of the specific active material recited in claim 1 and 10 - 20 % by volume of ethylene carbonate.

In the present Action, the Office takes the position that Table 2 shows data for the end points on 10% and 20% and does not show any data points between 10% and 20%. Additionally, the Office

notes that there are no data points below the claimed range or that are adjacent the range.

In order to demonstrate that the claimed range of ethylene carbonate as a solvent of the nonaqueous electrolyte of the nonaqueous electrolyte secondary battery of the present invention provides unexpected results over the entire range and to show criticality of the range, applicants are submitting herewith a declaration under 37 C.F.R. § 1.132 of Yasufumi Takahashi, one of the inventors of the claimed nonaqueous electrolyte secondary battery. In the declaration additional data are provided for an ethylene carbonate content in the electrolyte solvent of 5 vol% and 15 vol%.

As may be seen by referring to Table B of the declaration, the capacity retention values after 300 cycles of the batteries in which the nonaqueous electrolyte contains an amount of ethylene carbonate within the claimed range are consistently high over the entire range and are materially higher than the batteries in which the nonaqueous electrolyte contains an amount of ethylene carbonate outside the claimed range. The contents of ethylene carbonate of 5 vol% and 30 vol% are believed to be sufficiently close to the claimed range, when the teachings of the prior art are considered, to establish criticality of the claimed range relative to the prior art. The Office has not explained why amounts closer to the

claimed range are necessary to establish criticality of the range with respect to the prior art that the Office has used to support its case of prima facie obviousness.

Withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1-3, 6, 11 and 12 over Le in view of Shen is also respectfully requested.

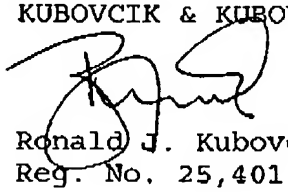
The foregoing is believed to be a complete and proper response to the Office Action dated March 31, 2011.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,

KUBOVCIK & KUBOVCIK



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